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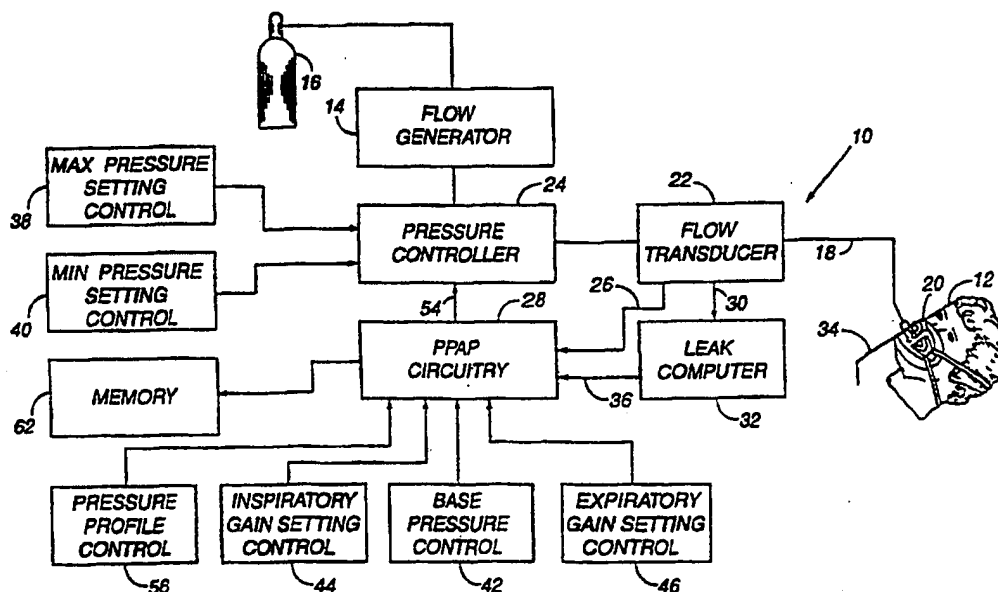
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(54) Title: METHOD AND APPARATUS FOR PROVIDING POSITIVE AIRWAY PRESSURE TO A PATIENT



## (57) Abstract

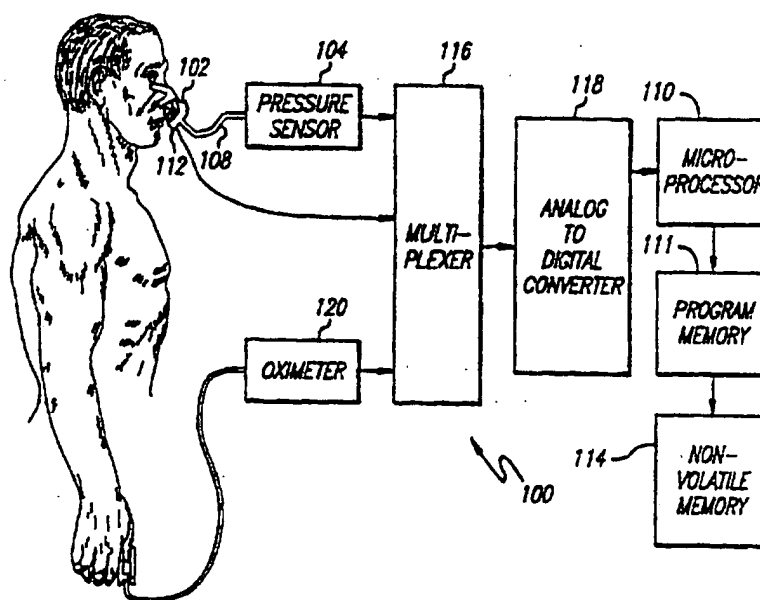
A system including methods and apparatus for treatment of a medical disorder such as obstructive sleep apnea or congestive heart failure. The system involves applying separate and independent gains (24) to flow rates of pressurized gas delivered to a patient (12) during inspiratory, expiratory phases of a respiratory cycle to deliver the pressurized gas in proportion to the respective gains during inspiration and expiration. A base pressure profile may be employed to assist or control inspiration. The system may be fully automated responsive to feedback provided by a flow sensor (22) that determines the estimated patient flow rate. A leak computer (32) can be included to instantaneously calculate gas leakage from the system. The system may be utilized in connection with conventional continuous positive airway pressure (bi-level PAP) equipment to effect various beneficial treatment applications.

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(21) International Application Number: PCT/US97/01718 (22) International Filing Date: 11 February 1997 (11.02.97) (30) Priority Data: 08/598,577                      12 February 1996 (12.02.96)      US (71) Applicant: NEW YORK UNIVERSITY [US/US]; 550 First Avenue, New York, NY 10016 (US). (72) Inventors: RAPOPORT, David, M.; 214 W. 17th #4A, New York, NY 10011 (US). NORMAN, Robert, G.; 306 Shore Drive, New York, NY (US). (74) Agent: HANKE, Gunther, Fulwider Patton Lee & Utecht, L.L.P., Suite 1550, 200 Oceangate, Long Beach, CA 90802 (US).		(81) Designated States: AU, CA, JP, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.          Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: METHOD AND APPARATUS FOR OPTIMIZING THE CONTINUOUS POSITIVE AIRWAY PRESSURE FOR TREATING OBSTRUCTIVE SLEEP APNEA



## (57) Abstract

For the treatment of apnea, a method and apparatus are disclosed. The preferred breathing apparatus consists of an analog to digital converter (118), microprocessor (110), a patient supply hose (108), a nose fitting (102), and a pressure transducer (104).

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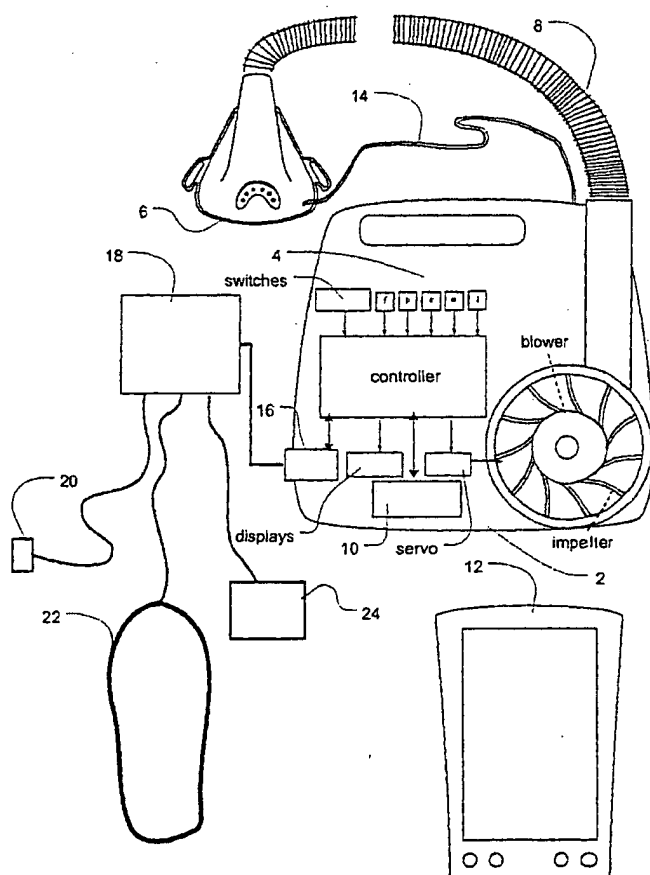
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(54) Title: **METHODS AND APPARATUS FOR STROKE PATIENT TREATMENT**



(57) Abstract: Methods and apparatus for assessing the condition of and treating patients for stroke during the delivery of continuous positive airway pressure (CPAP) are disclosed. By determining central and obstructive apnea occurrences or the percentile of pressure delivered to the patient from patient airflow, stroke indicators may be calculated and analyzed to provide information on the type of stroke a patient has suffered and the degree of a patient's neuro-recovery. The apparatus may be programmed with a particular protocol intended to identify between alternative forms of CPAP treatment appropriate for the patient based upon an assessment of the patient's condition. The device can select and recommend between the various treatment forms, identify billing reimbursement codes and generate data to track patient response to stroke treatments.

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